PROVINCE OF MANITOBA

Manitoba

MANITOBA ROUND TABLE ON ENVIRONMENT AND ECONOMY

Manitoba Round Table
on Environment & Economy

ACTIVITIES RELATED TO SUSTAINABLE DEVELOPMENT

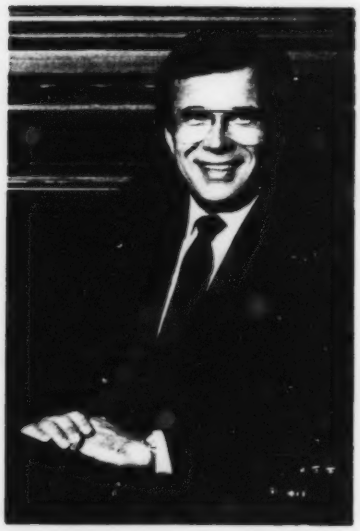
MAY 1992

92-06355/

THE PREMIER OF MANITOBA

Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

MESSAGE FROM THE PREMIER OF MANITOBA
CHAIR OF MANITOBA ROUND TABLE ON ENVIRONMENT AND ECONOMY



Ever since we as a government adopted sustainable development as a cornerstone of Manitoba's overall economic and environmental agenda we have fostered and encouraged activities related to the concept.

In simple terms, sustainable development is development that is in harmony with our environment. It meets present needs without compromising the ability of future generations to meet their own needs.

We are pleased to present this report illustrating the wide range of programs and activities undertaken in our Province to promote the concept of sustainable development.

Gary Filmon

Gary Filmon

ACTIVITIES RELATED TO SUSTAINABLE DEVELOPMENT

UNDERTAKEN BY THE PROVINCE OF MANITOBA

AND THE MANITOBA ROUND TABLE ON ENVIRONMENT AND ECONOMY

This is not an exhaustive list, but rather an illustration of the range of programs and activities currently being undertaken in Manitoba. The emphasis is on those of the Provincial Government, the Manitoba Round Table on Environment and Economy and Provincial Crown corporations, agencies and boards which further sustainable development.

The activities are organized under the following headings:

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CORPORATE ACTIVITY

1. MANITOBA ROUND TABLE ON ENVIRONMENT AND ECONOMY
   - a multi-partite consultation forum appointed by the Premier to advise and assist the Government of Manitoba in the development and implementation of a sustainable development strategy
   - chaired by the Premier of Manitoba
   - established in 1988 in response to a recommendation of the National Task Force on Environment and Economy

2. SUSTAINABLE DEVELOPMENT COMMITTEE OF CABINET
   - oversees provincial planning activities and processes required to develop and implement sustainable development programs
   - provides overall policy guidance in sustainable development
   - comprised of 6 Cabinet Ministers

3. PROVINCIAL LAND USE COMMITTEE OF CABINET
   - responsible for resolving specific land use issues, supervising the planning and sale of Crown land and advising the Minister of Rural Development on local land development plans

4. INTERDEPARTMENTAL PLANNING BOARD
   - mandated with coordinating the Province's sustainable development initiative
   - comprised of deputy ministers from 16 departments, agencies and Crown corporations

5. SUSTAINABLE DEVELOPMENT COORDINATION UNIT
   - mandated to coordinate sustainable development initiatives for the Province of Manitoba and support the Manitoba Round Table on Environment and Economy

6. SUSTAINABLE DEVELOPMENT BUDGETARY ENVELOPE
   - reorganization of the 6 departments with a direct bearing on economic development and environmental decisions into a common envelope for the budget allocation process

7. HEALTHY PUBLIC POLICY COMMITTEE OF CABINET
   - mandate to find and emphasize the health related aspects of all developments
   - the process incorporates multisectors, multidiscipline, public input in an attempt to achieve equity
   - composed of the Deputy Ministers and chaired by Deputy Minister of Health

8. AIRPORT EXHIBIT
   - the logo and principles and guidelines of sustainable development of the Manitoba Round Table on Environment and Economy were displayed throughout the Winnipeg International Airport 1991/92
   - joint venture with the Winnipeg Airport Authority

9. FIRST MINISTERS' CONFERENCE
   - Manitoba took the leadership role in putting sustainable development on the agenda
   - the Premiers agreed that sustainable development should be an on-going priority at annual Premiers' Conferences and the First Ministers' Conference on the Economy

10. SUSTAINABLE DEVELOPMENT THEME BUS
   - a Winnipeg transit bus promoting sustainable development with the theme "A Clean Way to Grow"
   - launched March 22, 1990
   - joint venture with Investors Group and Winnipeg Transit

11. MANITOBA HAZARDOUS WASTE MANAGEMENT CORPORATION
   - a provincial Crown corporation responsible for the overall development and operation of a hazardous waste management system for Manitoba
   - mandated to provide for the handling of regulated hazardous waste from their source through to their treatment and disposal
   - involved in education, community co-management and consultations with the private sector

12. GLOBE '90 CONFERENCE
   - one of the major exhibitors at the first international environment/business trade fair held in Vancouver, British Columbia in April 1990
   - goal to provide a forum for identifying solutions to problems and promoting their application
   - display was entitled "Manitoba: Centre of Sustainable Development"

13. ENVIRONMENT AND ECONOMY, PARTNERS FOR THE FUTURE
   - hosted a three day conference on sustainable development in May 1989
   - speakers and delegates came from as far away as Hong Kong and Australia

14. GOVERNMENT PROCUREMENT POLICY
   - amended the policy to indicate that where it is economical and practical, and where compatible products are available, environmentally sensitive products will be purchased

15. FIRST JOINT MEETING OF ROUND TABLES
- hosted the first meeting which invited members of round tables across Canada to meet and discuss issues
- held April 1990

16. WORLD '90 ENVIRONMENT, ENERGY AND ECONOMIC CONFERENCE
- hosted an international conference in October 1990
- topic was "Protecting the Environment - Preparing for Tomorrow"
- attended by approximately 3,000 delegates from around the world

17. INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT
- Winnipeg based international centre for the promotion of sustainable development and stewardship of resources, environment and economy at both a local and global level
- established March 1990
- 5 year joint federal/provincial funding provided to this independent institution

18. CANADIAN COUNCIL OF MINISTERS OF ENVIRONMENT
- works toward the national harmonization of policies and procedures for environmental standards and legislation
- focus on environmental issues and dissemination of information
- Secretariat office located in Winnipeg

HARMONIZATION OF ENVIRONMENTAL ASSESSMENTS
- goal to ensure consistency and compatibility of environmental assessments across Canada
- cooperative efforts with the Canadian Council of Ministers of the Environment

19. ENVIRONMENTAL LIABILITY
- review underway related to the liability associated with contaminated sites
- interim amendment to the Manitoba Dangerous Goods Handling and Transportation Act allows land/product owners at the time of contamination to share responsibility for clean up
- coordinated with the Canadian Council of Ministers of the Environment to develop consistency across Canada

SUSTAINABLE ECONOMIC AND BUSINESS DEVELOPMENT

20. NORTHERN MANITOBA ECONOMIC DEVELOPMENT COMMISSION
- mandated to consult with groups to formulate a sustainable economic development strategy for northern Manitoba
- comprised of 6 commissioners appointed by Minister of Northern Affairs

21. ENVIRONMENTAL INDUSTRIES DEVELOPMENT INITIATIVE
- promotes the establishment and expansion of research, technology and businesses that offer a product or service to address environmental concerns
- activities includes organizing partnerships, offering advice, attracting investment to the Province, finding Manitoba content for larger projects, and developing opportunities
- offered through the Department of Industry, Trade and Tourism

22. INTEGRATION OF ENVIRONMENTAL AND ECONOMIC DECISIONS
- Manitoba Hydro conducts environmental overview studies for all proposed development projects in order to identify potential impacts and preliminary mitigation/compensation needs
- environmental considerations are an integral component of the siting of major transmission projects

23. SOUTHERN DEVELOPMENT INITIATIVE
- provides financial assistance to southern municipalities to make improvements to their water supply and waste treatment and disposal systems
- funding provided under the Canada-Manitoba Partnership Agreement on Municipal Water Infrastructure for Rural Economic Diversification
- joint partnership with federal, provincial and local government to provide $90 million over 5 years

24. THE CITY OF WINNIPEG ACT
- amended July 26, 1991 to permit development zoning bylaws for use in the protection of sensitive lands, heritage resources and scenic areas; allow the organization of community development programs for the protection of the environment; and require Plan Winnipeg to include consideration for sustainable use of land and other resources

25. HIGHWAY PLANNING
- all highway projects are assessed in order to ensure that the principles of sustainable development are properly incorporated

26. ENVIRONMENTAL PROTECTION PRACTICES HANDBOOK
- a code of practice handbook is being developed for Manitoba Hydro operations and contractors
- will be used as a guide in future contracting projects

27. EARTH ENVIRONMENT SPACE INITIATIVE
- goal to provide high quality data from space to monitor air, water and land environments
- includes development of satellite sensors suited to the Canadian atmosphere
- Memorandum of Understanding signed by the science and technology Ministers of Manitoba, Saskatchewan, Alberta and British Columbia

28. ENVIRONMENTAL INNOVATIONS FUND
- provides financial assistance to innovative projects and areas which address environment-economic issues
- objective to develop new environmental programs and promote education, community involvement and environmental industries
- funds from revenues generated by environmental protection taxes and levies

COMMUNITY AND RURAL DEVELOPMENT

29. RURAL DEVELOPMENT INSTITUTE
- undertakes research on issues affecting the social and physical development of rural Manitoba
- located at Brandon University

30. FLOOD DAMAGE REDUCTION PROGRAM
- use of flood protection projects to maintain the sustainability of flood prone rural communities
- uses mapping of flood prone areas to guide new development
- cost shared between federal, provincial, and municipal governments under the Federal-Provincial Damage Reduction Program

31. PROVINCIAL LAND DRAINAGE PROGRAM
- Department of Natural Resources manages 4,350 kilometres of provincial waterways to protect agriculture crops from excess precipitation
- drainage standards based on technical, environmental and economic criteria which recognizes the watershed, community and farm impacts

32. MANITOBA WATER SERVICES BOARD
- provides technical and financial assistance for the provision of farm and community water

33. COMMUNITY CHOICES PROGRAM
- goal to establish rural and northern community round tables
- 30 communities have established or applied for funding
- administered by Department of Rural Development

34. RURAL DEVELOPMENT BONDS PROGRAM (GROW BONDS)
- established to allow Manitobans to invest in their rural communities
- legislation passed to allow the establishment of corporations which issue and invest proceeds in local, eligible businesses
- administered by the Grow Bonds Office in Altona

35. PROPERTY ASSESSMENT AND REFORM
- reformed property assessment legislation and practices so that taxation is equitable, assessed values are current and valuation of land and property is easily understood

36. MUNICIPAL ADVISORY AND FINANCIAL SERVICES
- provided to municipalities regarding administration, financing and councillor/staff education in order that sustainable development may be supported by efficient local governments

37. URBAN TRANSIT GRANTS
- promotion and financial aid through urban transit grants for mass transit
- provided to municipalities other than the City of Winnipeg

38. CHURCHILL ECONOMIC DEVELOPMENT COMMITTEE/DOWNTOWN REVITALIZATION
- promotion of economic development of Churchill through grants and staff assistance
- goal to make the community financially self-sustaining

39. ADMINISTRATION OF SUBDIVISION REVIEW PROCESS
- reviews applications to subdivide land to ensure they promote sustainable development and are consist with local plans and the Provincial Land Use Policies
- provided under the Planning Act

40. PROVINCIAL LAND USE POLICIES
- ensures the Province's land base is managed in a manner consistent with the principles and guidelines of sustainable development
- adopted under the Planning Act

41. PLANNING DISTRICTS/MUNICIPAL DEVELOPMENT PLANS
- 2 or more municipalities cooperate in the preparation and implementation of plans for sustainable land use
- 27 Planning Districts have been established involving 76 municipalities
- 45 other municipalities have prepared or are preparing their own development plans

42. ARCHAEOLOGY WARDENS
- volunteer avocational archaeologists monitor archaeology sites and report findings to the Historic Resources Branch
- located at various sites throughout the Province

43. RAILS TO TRAILS
- program in the Interlake Region to facilitate the recycling of abandoned railway lines for community uses

44. MUNICIPAL HERITAGE ADVISORY COMMITTEE
- encourages local government to form committees to inventory heritage sites, designate locally-significant sites, and encourage the innovative re-use of heritage structures

45. REHABILITATION OF SURPLUS GOVERNMENT BUILDINGS
- policy being developed to re-use and rehabilitate surplus government buildings

46. COMMUNITY DEVELOPMENT ADVISORY SERVICE
- integrated sustainable economic development, conservation and land use planning provided to communities
- provided through Department of Rural Development

RESOURCE MANAGEMENT

47. ENDANGERED SPACES PROGRAM
- commitment to protect 12 percent of Manitoba's natural regions in parks, provincial forests and other protected areas
- the Premier of Manitoba hosted the kick-off of the Endangered Spaces Campaign in Manitoba
- the Endangered Spaces Program was developed by the World Wildlife Fund and supported by the Manitoba Government

48. REGIONAL ADVISORY COMMITTEES FOR PROJECT DEVELOPMENT
- establishment of regional advisory committees to assist in planning, designing and implementing major water management projects

49. REGIONAL DEVELOPMENT/CONSERVATION GRANTS
- grants provided to regional development agencies and conservation districts to foster sustainable economic development and conserve soil and water
- provided through Department of Rural Development

50. PEMBINA VALLEY WATER SUPPLY STRATEGY
- development of a supply plan for domestic and municipal water use for areas chronically short of water
- participation from local residents and stakeholders

51. DAUPHIN LAKE BASIN MANAGEMENT PLAN
- mandated to consult with residents to develop a Basin Management Plan for the Dauphin Lake Basin
- members consist of 48 representatives of organizations, local government and interest groups

52. HERITAGE BUILDING GRANTS
- grants provided to provincially and municipally designated heritage sites to encourage adaptive re-use of existing heritage buildings

53. CONSERVATION DISTRICTS
- deliver soil, water and habitat management programs through locally appointed boards and the Department of Rural Development
- provide a long term strategy which includes teaching conservation tillage, building water retention dams, planting grass in waterways, planting shelterbelts, and monitoring water quality

54. SHILO ENVIRONMENTAL ADVISORY COMMITTEE
- reviews and assesses proposed military training activities on the Shilo Military Range to ensure measures are taken to protect the mixed grass prairie ecosystem

55. SHOAL LAKE WORKING GROUP
- assists in the implementation of the Shoal Lake Agreement which ensures the sustainable management of Shoal Lake as a source of drinking water for the City of Winnipeg
- comprised of representatives of the City of Winnipeg, the First Nation Indian Band #40, and Province of Manitoba

56. PLUM LAKES RESOURCE MANAGEMENT STUDY
- development of a water management plan for the Plum Lakes area to enhance sustainable agriculture and wildlife habitat
- cooperative effort between the Department of Natural Resources, Ducks Unlimited, and Plum Lakes Management Board

57. CROSS LAKE WEIR PROJECT
- $9.5 million dollar project to reduce or eliminate the adverse environmental impacts created by the Jenpeg Generating Station on the Nelson River
- goal to prevent the low water levels that have occurred over the past 15 years
- undertaken by Manitoba Hydro

58. REHABILITATION OF GRAVEL PITS
- a 5 year program for rehabilitation of gravel pits has been completed
- provincial departments are cooperating in the continuation of gravel pit clean up, restoration and management

59. HUNTING REGULATIONS PROGRAM

- regulations are designed to maintain wildlife populations, maximize recreational use and minimize wildlife damage and conflicts with other outdoor users
- includes: refuges, season dates, bag limits, vehicle use restrictions and general hunting regulations

60. ENERGY INFORMATION CENTRE

- provides information to the public on energy efficiency related to the residential, commercial, agricultural, industrial and transportation sectors
- services: telephone and drop-in assistance and distribution of information

61. SPECIAL CONSERVATION LICENCE

- anglers voluntarily reduce their harvest through a reduced catch limit for popular species
- introduced as an alternative to the regular sport fishing licence to encourage conservation

62. GREAT FORMS DESTROYAL

- Manitoba Telephone System has pledged to plant a tree for every office form it retires
- trees are planted by the Telephone Pioneers (a volunteer group of Manitoba Telephone System retirees)
- as of June 1991 31 forms have been retired, 25 had previously been cancelled and 20 forms are under review

63. HOME ENERGY SAVER WORKSHOPS

- provides practical advice about cost effectively increasing the energy efficiency of homes to people planning to build or renovate
- 25 to 50 workshops conducted annually throughout Manitoba

64. MINIMIZE SERVICE ROAD CONSTRUCTION

- construction of service roads along four-lane highways is kept to a minimum to reduce the impact on adjacent land

65. GEOCOMP FOR CANADIAN GLOBAL CHANGE PROGRAM

- daily satellite imagery for Canada will be processed to monitor land cover change and assess cropland and environmental conditions
- the $1.3 million satellite image processing system is located in the Manitoba Remote Sensing Centre
- supports the Canadian Crop Information and Global Change Programs
- provided under a federal-provincial Memorandum of Understanding

66. DEER HABITAT ASSESSMENT IN AGRO-MANITOBA

- land cover data from satellite observations is collected and compiled to assess wooded land cover lost in southwest Manitoba as it pertains to white-tailed deer habitat

67. VEGETATION CHANGE ASSESSMENT FOR CANADIAN FORCES BASE SHILO

- a comparative study of vegetation change between 1958 and 1988 was completed from interpretation and mapping of aerial photography
- vegetation communities were identified and assessments were made of impact changes

68. LAND COVER MAPPING FOR ALL OF CANADA

- a land use/land cover mapping project for Canada has been completed for the National Atlas Division of the Federal Department of Energy, Mines and Resources using NOAA satellite imagery
- this unified mapping project provides 1 kilometre cellular resolution information which is being used in macro planning, environmental assessments, and natural resource management evaluations

69. MANITOBA GEOGRAPHICAL NAMES PROGRAM

- provides authority for the enhancement, maintenance and protection of our geographical nomenclature
- a quarterly newsletter advises on policies, procedures and issues related to the program
- procedures have been established to allow families of World War II Fatal Casualties who have had lakes, rivers, and other features named after them, to visit these remote sites and erect cairns or plaques

70. URBAN PROPERTY PARCEL DEVELOPMENT PROGRAM

- a comprehensive database of property parcel information to assist in property assessment, the administration of the City of Winnipeg Act and other sustainable and economic development initiatives
- provides an essential referencing component for the City's Land Based Information System development
- cooperative initiative under a Memorandum of Understanding between Province of Manitoba and the City of Winnipeg

71. RURAL PROPERTY PARCEL DEVELOPMENT PROGRAM

- a database of property parcel and survey information to support the aggregation and interchange of resource data
- provides an essential component for the future integration of all provincial land-related information

72. LEGAL AND GEODETIC SURVEY PROGRAM
- provides a survey of positional referencing of natural and man made features and associated attribute information

73. SOUTHERN MANITOBA DIGITAL TOPOGRAPHIC MAPPING PROGRAM
- provides positional and descriptive information about the Manitoba land mass in digital form to support computer aided resource and environmental management as well as provincial GIS activities

74. WATER LICENSING
- licensing of water allocations from surface sources to aquifers for all uses, except domestic, as based on the sustainable limits of the source
- licensing on-farm drainage works and diversion works to minimize water-related hazards and adverse impacts

75. WATER RESOURCES-ENVIRONMENT LIAISON COMMITTEE
- established to enhance the communication of issues and the coordination of activities that affect water management and environmental protection

76. CONSERVATION CORRIDOR PROGRAM
- dedicated to preserving unused municipal road allowances in their natural state in order to conserve wildlife and natural habitat

77. FEDERAL/PROVINCIAL PARKS COUNCIL OF MINISTERS
- the Province spearheaded the development of principles to guide park management
- Manitoba is member of the Council

78. SPORT FISHING REGULATIONS PROGRAM
- regulations designed to maintain fish populations, provide good fishing and create economic benefits
- includes: reduced fish limits to protect fish populations; required use of barbless hooks which encourage anglers to release their catch; and special size limits, such as no kill over a maximum size, to make the best use of the resource in individual waters

79. AGREEMENT ON MINERAL DEVELOPMENT
- to facilitate mineral exploration and development in an environmentally sound manner
- partnership between federal and provincial governments

80. REHABILITATING GRAVEL AND SAND BORROW PITS
- rehabilitation of gravel and sand borrow pits and associated access roads and stream crossings used during construction of previous projects by Manitoba Hydro
- also have a riverbank stabilization program for its Winnipeg River sites

81. OMAND CREEK CLEAN-UP
- a portion of the banks of Omand Creek is cleaned on an annual basis
- joint venture between Manitoba Telephone System volunteers and the Boys and Girls Club of Winnipeg

82. ENDANGERED SPECIES ACT
- designates plants, animals, and other organisms as endangered, threatened, or extinct
- provides for entering into agreements to restore populations
- enacted in 1990

83. RESTORATION OF ABANDONED RIGHTS-OF-WAY
- where feasible, abandoned roadways are removed and the land is returned to a use compatible with adjacent lands

84. GEOSCIENCE
- goal to increase the level and effectiveness of mineral exploration by generating new baseline geological information in mining districts with dwindling base metal reserves and in other perspective areas
- part of the Canada-Manitoba Partnership Agreement on Mineral Development

85. PRO TRUCKERS PROGRAM
- an information program on the latest truck technology, the best driving techniques, maintenance techniques and cost effectiveness of energy efficiency improvements
- also includes a Fuel Economy Challenge where drivers pit their technology and expertise against one another on a pre-determines route
- jointly funded by Energy, Miners and Resources (Canada), Department of Energy and Mines, the Manitoba Trucking Association and the trucking industry

86. TALL GRASS PRAIRIE CONSERVATION PROGRAM
- a conservation program to preserve the tall grass prairie sites through acquisition or leasing in order to protect genetic diversity on the Prairies
- component of Critical Wildlife Habitat Program

87. TECHNOLOGY PROGRAM
- goal to encourage mineral development through research into improved productivity and competitiveness of current, planned and potential operations
- major thrusts focus on mining, processing and environmental technology developments
- part of the Canada-Manitoba Partnership Agreement on Mineral Development

88. LANDSCAPE BORROW/HIGHWAY CONSTRUCTION
- where possible, existing highways are widened with embankment material removed from knolls located along the highway
- the area is then rehabilitated and put back into agriculture production

89. BORROW EXCAVATION/HIGHWAY CONSTRUCTION
- where possible, existing highways are widened with embankment materials removed from selected borrows pits
- this reduces costs and disturbance to adjacent landowners and provides benefits to agriculture and wildlife

90. AERATION OF SMALL PRAIRIE LAKES
- a program to aerate small prairie lakes to aid fish populations and develop recreational opportunities

91. VOLUNTARY ENHANCEMENT FUND
- Department of Natural Resources is exploring the option of developing, administering and distributing funds generated through voluntary angler contributions to be used for fish enhancement projects

92. LICENSING ALLOCATION COMMITTEE GUIDELINES
- guidelines for licensing sport fishing lodges and outfitters are designed to match the level of resource users with resource potential
- where possible, allocations are aimed at increasing the number of tourist anglers while maintaining fish harvests

93. SUPPORT FOR GRAND RAPIDS HATCHERY
- fingerlings are used to restore fish populations on northern lakes, including those affected by hydro-electric development
- Manitoba Hydro supports the hatchery

94. STREAM CROSSING
- every stream crossing is designed in accordance with procedures to reduce damage to the fisheries resource
- the Department of Highways and Transportation supports the no-net-loss policy adopted for the protection of fish habitats

95. HIGHWAYS/NATURAL RESOURCE WILDLIFE COMMITTEE

- mandated to prepare a manual of techniques to minimize and mitigate impacts that highway construction activities, maintenance and operation have on wildlife

96. TALL GRASS PRAIRIE RESTORATION

- plots of tall grass prairie are being established along Provincial Highway #75
- joint project between Department of Highways and Transportation, Prairie Habitats, Hoechst Canada Inc., Roussel Uclaf. and Wildlife Habitat Canada

97. MANITOBA MINES AND MINERALS ACT

- first mining legislation in Canada to formally adopt the principles of sustainable development
- integrates mineral exploration and development activities with environmental protection
- proclaimed April 1, 1992

98. QUOTA ENTITLEMENT SYSTEMS

- quota entitlements (individual quotas) have been established for Lakes Winnipeg and Winnipegosis in order to improve economic returns while maintaining lake harvest
- also allows greater control among commercial fishermen in transferring quotas

99. NATIVE FISHING AGREEMENTS

- a Memorandum of Understanding has been developed with the Sagkeeng First Nation to co-manage the sturgeon fishery on the Winnipeg River
- discussions are ongoing with the Cross Lake Band to ensure conservation of the sturgeon in the Nelson River
- broader discussions are underway with Native leaders with regard to management of fish used for domestic purposes

100. RECLAMATION OF AGGREGATE DEPOSITS

- under the Mines and Minerals Act strict standards for operation of sand and gravel pits and quarries are being adopted
- requirements include limits for dust, noise, vibration, topsoil replacement, slope angle, and setback of property
- requires funds be set aside to ensure that pits and quarries are restored to a condition compatible to adjacent land

101. NO NET LOSS FISH HABITAT PROGRAM
- all developments requiring an Environmental Licence are reviewed to ensure that if fish habitat will be significantly impacted, mitigation and/or habitat compensation activities are undertaken
- Fish Habitat Guidelines are applied to stream crossings, forest harvesting and other land use activities to protect fish habitats

102. SPECIAL INVESTIGATION UNIT
- special trained Natural Resource Officers conduct investigations to determine the extent of the illegal traffic in game and fish and carry out covert enforcement initiatives

103. DEER DECOY PROGRAM
- use of deer, moose and elk decoys to improve the effectiveness and safety of operations aimed at reducing poaching

104. TURN IN POACHERS (TIPS)
- a toll-free telephone line that the public can use to anonymously report violations of fish and wildlife laws and forest fires

105. FISHERIES INFORMATION SYSTEM
- development of a fisheries inventory and habitat classification computerized data base of 1,500 waterbodies
- contains information on fish habitat, sport fishing lodges, commercial fishing production and land use development
- goal is to integrate this data base with the Manitoba Resources Information System to assist in decision making on resource and economic sustainability

106. WALLEYE HATCHERIES
- operation of 2 seasonal walleye hatcheries and the Grand Rapids Fish Hatchery by Department of Natural Resources
- stocks 60 to 100 million walleye fry annually

107. TROUT HATCHERIES
- Department of Natural Resources operates 2 year round trout hatcheries at West Hawk Lake and Grand Rapids to stock 400 to 600 thousand trout fingerlings annually in as many as 90 water bodies
- also stocks 2 year old trout

108. WALLEYE SPAWNING STRUCTURES
- structures are installed in streams and lakes to increase the size and sustainability of recreational fisheries
- these structures also control streambed erosion

109. INSTALLATION OF FISH SCREENS
- screens are installed at the outlets of small reservoirs to prevent fish from escaping from a fishery or to prevent fish from migrating into areas where they may become trapped

110. TROUT HABITAT ENHANCEMENT
- a program to provide undercut banks; place instream objects such as large rocks and debris piles; provide shelter for the fish; and create deeper pools for trout
- the Department of Natural Resources offers technical advice and works with sport fishing groups

111. IMPROVEMENT OF FISHWAYS
- design and install of fishways to allow fish to move upstream to spawning areas
- the Department of Natural Resources offers technical advice and works with sport fishing groups

112. MANITOBA FISHERIES STRATEGY
- a strategy to guide the management of Manitoba's fish resources
- a strategy for commercial fishing and for stocking fish is derived from this strategy

113. FISH GROUP INVOLVEMENT AND CO-MANAGEMENT
- users of fish resources are encouraged to participate in management of fisheries
- consultations are held with domestic, commercial and sport groups

114. WATCHABLE WILDLIFE PROGRAM
- supports the enhancement and promotion of wildlife viewing opportunities
- initiative by Department of Natural Resources

115. OAK HAMMOCK MARSH CONSERVATION CENTRE
- development of a national interpretive centre to educate the public about wetlands and waterfowl conservation
- joint undertaking by Ducks Unlimited Canada, Province of Manitoba and Federal Western Diversification Fund

116. CRITICAL WILDLIFE HABITAT PROGRAM
- to preserve remaining critical wildlife habitats in agro-Manitoba
- initiatives undertaken by Wildlife Habitat Canada, World Wildlife Fund, Manitoba Habitat Heritage Corporation, Manitoba Naturalists Society and Manitoba Natural Resources

117. WILDLIFE MANAGEMENT AREAS PROGRAM
- to identify, designate, protect and manage key provincial wildlife habitats

118. INTRODUCTION OF PEREGRINE FALCONS
- re-establishment and protection of peregrine falcons to nest at the top of the seed plant, one of the highest buildings in Brandon
- cooperative venture between A. E. McKenzie Co. Ltd. and Wildlife Canada

119. CANADIAN HERITAGE RIVERS PROGRAM
- to protect the natural, cultural and recreational value of Canadian rivers
- the Department of Natural Resources has begun a two year review of selected Manitoba rivers
- Department of Natural Resources is a charter member of this federal-provincial program

120. TALL GRASS PRAIRIE RESTORATION PROJECT
- long term project in Beaudry Provincial Heritage Park to restore tall grass prairie
- joint project between Department of Natural Resources, Prairie Habitats, Hoechst Canada Inc., Roussel Uclaf. and Wildlife Habitat Canada

121. ENVIRONMENTAL YOUTH CORPS
- a program that addresses environmental quality related to protection, enhancement, rehabilitation, conservation and resource management
- allocates small grants to youth and youth oriented organizations

122. ECOLOGICAL RESERVES ACT
- established a system of protected ecological reserves as examples of typical ecosystems
- goal to protect rare and endangered plants and to maintain a diversity of plants and animals
- enacted in 1990

123. VOLUNTARY PROTECTED ECOLOGICALLY SIGNIFICANT AREAS
- provides support for landowners who have protected natural areas which are ecologically significant

124. WATER RESOURCES BASIN INVENTORY
- an inventory and map of water and related resources for application in basin, watershed and regional planning
- includes development of 3 dimensional block diagram basin maps for the major rivers in southern Manitoba

125. GROUNDWATER MANAGEMENT ACTIVITIES
- annual performance monitoring of major aquifers relative to water supply demands
- aquifer sensitivity maps are being prepared for agro-Manitoba

126. WATER SUPPLY PROGRAM
- Department of Natural Resources manages provincial dams and reservoirs to enhance water supply, flood control, fish and wildlife habitat and recreational opportunities

127. NORTH AMERICAN WATERFOWL MANAGEMENT PLAN
- a habitat enhancement, land-use program to conserve wetlands and soil with the goal of rebuilding waterfowl populations
- $1.5 billion ($15 million for Manitoba) commitment over 15 years
- established in 1986
- joint partnership with Ducks Unlimited Canada, Wildlife Habitat Canada, North American Wildlife Federation and the governments of Manitoba, Canada and United States of America

128. PROVINCIAL PARK LANDS ACT
- revisions to reflect resource management - sustainable use, regional representation of protected lands, and management of resources for the benefit of future generations

129. MANITOBA ZEBRA MUSSELS INFORMATION OFFICE
- coordinates efforts to ensure all reasonable measures are taken to delay the spread of zebra mussels into Manitoba waters and to ensure all major water users are prepared for the inevitable arrival of this aquatic pest

130. CLEAN ENVIRONMENT COMMISSION WATER CLASSIFICATION REPORT
- prepared as background information for the proposed classification of the Red and Assiniboine Rivers and their tributaries
- provides an assessment of water quality as it relates to current and future water uses

131. HERITAGE MARSH PROGRAM
- program to identify, designate, plan, protect and develop significant marshes
- partnership with Department of Natural Resources, Ducks Unlimited Canada, the Manitoba Naturalists Society, the Manitoba Wildlife Federation and Wildlife Habitat Canada

ENERGY CONSERVATION

132. POWER SMART PROGRAM
- goal to increase efficiency in energy use
- specific programs have been established for automatic outdoor timers, energy efficient lighting and showerheads, weatherproofing of homes, and customer education
- undertaken by Manitoba Hydro

133. ALCOHOL FUEL TAX REDUCTION
- Manitoba based producers of ethanol are given a reduced provincial fuel tax of $.35 per litre for every litre of ethanol produced and sold in Manitoba as gasohol

134. UPGRADE VENTILATION SYSTEM
- technical engineering services are provided to producers to ensure optimum usage of energy sources for heating and ventilating livestock facilities

135. ENERGY ACT
- legislation is being developed to provide the Department of Energy and Mines with a mandate to develop energy policies to ensure energy efficiency and conservation
- the Act will embody the principles of sustainable development and reflect public input from the energy strategy workshops held in 1991

136. ENERGY CONSERVATION TARGET
- Manitoba Hydro plans to reduce electricity demand by 285 megawatts and 1049 gigawatt hours by 2001
- to achieve this target, $400 million will be invested in the development of the Power Smart Program
- 285 megawatts are equivalent to the combined capabilities of the Seven Sisters and Great Falls Generating Stations on the Winnipeg River

137. PROMOTION OF NATURAL GAS AS A VEHICLE FUEL
- joint study to explore feasibility of natural gas as a vehicle fuel in the Winnipeg Transit fleet and the City of Brandon fleet
- joint project with Centra Gas

138. ADVANCED HOUSE PROJECTS
- a leading-edge technology home is being build to demonstrate advanced energy efficiencies, both in construction and operations
- the house is being built by the Manitoba Home Builders' Association as part of a federal Green Plan initiative

RECYCLING AND WASTE MANAGEMENT

139. A CLEAN ENVIRONMENT IS IN THE CARDS
- Manitoba Lotteries Foundation distributes used playing cards from the Crystal Casino to seniors' organizations for their use

140. SEED DONATION
- millions of packets of seeds, returned from retail outlets, are given to developing countries in order to encourage gardening activities and self-sufficiency
- donation by A.E. McKenzie Co. Ltd.

141. REMOVAL OF LEAD BASED PAINTS FROM EXISTING BRIDGES
- special precautions are being taken to ensure the proper removal and disposal of lead based paints from existing bridges
- attempts to minimize the impact on fisheries and water quality in the river below the bridge

142. REGIONAL RECYCLING NETWORK DEVELOPMENT PROGRAM
- regional recycling networks are being developed throughout the Province
- includes regional centres for processing of newspaper
- financial assistance from Environmental Innovations Fund
- coordinated by Manitoba Environment in cooperation with local government, community groups and the federal government

143. REFRIGERANT GAS RECOVERY AND RECYCLING
- over 1,000 refrigeration and air conditioning technicians trained in the national Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems
- mandatory under the Ozone Depleting Substances Act

144. WASTE BEVERAGE CONTAINER AND PACKAGING REGULATION
- established regulatory and waste diversion targets for the beverage industry
- requires waste reduction and prevention plans be prepared and made public

145. REGIONAL WASTE MANAGEMENT ASSISTANCE FUND
- provides financial assistance for municipalities to examine the feasibility of establishing regional waste management systems

146. MUNICIPAL SOLID WASTE REDUCTION COORDINATION COMMITTEE
- coordinates efforts to reduce solid waste
- partnership with Manitoba Environment, City of Winnipeg, Environment Canada, Environmental Partnership Fund, Manitoba Association of Urban Municipalities and Urban Municipalities of Manitoba

147. 4-H HIGHWAY CLEAN-UP CAMPAIGN
- during May 1991, 137 clubs collected garbage from over 1,500 kilometres of highway
- joint project with 4-H Clubs and Departments of Agriculture and Highways and Training

148. DONATION OF NURSERY STOCK
- unsold nursery stock is given to the cities of Brandon and Minot for use in city parks
- donation by A. E. McKenzie Co. Ltd.

149. ROBLIN EFFLUENT IRRIGATION
- farm producers use town lagoon sewage as irrigation material for alfalfa production

150. REMOTE AND NORTHERN COMMUNITY COMPOSTING
- project to teach, through participation, the composting of community generated wastes
- compost used for soil improvement and development which will in turn provide a base for food production

151. CO-MANAGEMENT FACILITY SITING PROCESS
- a voluntary process for the location and operation of a hazardous waste management facility
- a collective decision making process between host communities and proponents
- developed by the Manitoba Hazardous Waste Management Corporation

152. HANGERS PUT TO REUSE
- Crystal Casino returns hangers from staff uniforms to the dry cleaners for reuse

153. PROVINCIAL HAZARDOUS WASTE MANAGEMENT SYSTEM
- a comprehensive hazardous waste management system with the basic principle of source-based management, that involves the reuse, reduction, recycling and reclamation of waste
- developed by Manitoba Hazardous Waste Management Corporation

154. FIRE PROGRAM OPERATIONS
- forest fire fighters will be supplied with re-usable plastic containers, reducing the use of boxed or canned juices and softdrinks
- disposable plates and cups will be replaced with washable melmac ones

155. WATER BASED (LATEX) TRAFFIC MARKING PAINT
- the Department of Highways and Transportation is increasing the use of water based latex traffic marking paint to reduce solvent use

156. RECYCLING TRAFFIC SIGNS
- old traffic signs and panels are recycled

157. RECYCLING CONCRETE PAVEMENT
- the Department of Highways and Transportation is experimenting with the use of crushed old concrete pavement as aggregate for new concrete

158. GARAGE RECYCLING
- the Department of Highways and transportation recycles solvents, scrap metal, oil and tires at its facilities

159. RECYCLED SLEEPING BAGS
- sleeping bags made of recycled softdrink containers are being purchased for fire fighters

160. RECYCLING IN THE PARKS
- depots to collect recyclable materials, such as aluminum cans, plastic soft drink bottles and tin cans, are being established in 4 Provincial Parks: Birdshill, Spruce Woods, Grand Beach, and Hecla Island
- future plans are to extend the depots to other Provincial Parks

161. MANITOBA WASTE EXCHANGE
- a program which encourages the exchange and reuse of waste industrial materials by businesses
- operated by Biomass Energy Institute, a non-profit organization
- joint project by Department of Environment, Manitoba Hazardous Waste Management Corporation and private industry

162. REFILLABLE CUPS PROGRAM
- intent to reduce the use of disposable cups in government cafeterias by selling employees cups that are refillable

163. PESTICIDE CONTAINER DECONTAMINATION TECHNOLOGY
- development of a decontamination process for pesticide containers so that they can be recycled
- joint venture between the Manitoba Hazardous Waste Management Corporation and a rural environmental services company

164. NEWSPAPER RECYCLING
- a program implemented in the Legislative Building which allows offices to recycle their newspapers

165. RECYCLING ELECTRICAL SYSTEM MATERIALS

- Manitoba Hydro cleans and reuses electrical system materials, such as transformer oil, conductor switchgears and poles
- they have also cleaned more than 7 million litres of oil containing PCB's

166. RECYCLING ASPHALT PAVEMENTS

- old asphalt is crushed and utilized for sub base materials and new pavement by the Department of Highways and Transportation

167. COTTAGE SEWAGE DISPOSAL INSPECTION PROGRAM

- inspection of cottages on a 5 year rotation to monitor compliance with water quality standards

168. ALUMINIUM CAN AND PLASTIC CONTAINER RECYCLING

- since 1990, collection bins have been phased in at government cafeterias to encourage recycling of aluminum cans and plastic containers
- the funds received from the sale of the recyclables is donated to the All Charities Committee

169. ART CREATED WITH USED OFFICE SUPPLIES

- through its staff, Manitoba Lotteries distributes used cardboard office supplies (mailing tubes, boxes and posters) to daycares and schools for arts and crafts

170. INDUSTRIAL PAINT RESIDUE MANAGEMENT STUDY

- study of industrial paint residue which are no longer permitted in landfills
- resulted in a guide outlining management, elimination, volume reduction, on-site treatment and disposal
- joint venture between the Manitoba Hazardous Waste Management Corporation and private industry

171. QUEEN'S PRINTER

- undertaken a variety of waste minimization and recycling initiatives:
  - reduced over-runs on printing jobs by 10 percent
  - eliminate individual envelopes for pay cheques
  - re-utilizing supplier packaging materials
  - all standard envelopes produced internally contain a recycled content
  - chemical processing associated with conventional typesetting has been eliminated by converting to desktop publishing

172. PAPER STOCK

- purchased approximately 6.6 million sheets of recycled paper
- 90 percent of the paper stock at Queen's Printer has been converted from acid processed to alkaline processed

173. CANOLA BASED INKS FOR PRINTING
- Queen's Printer has replaced oil based inks with Canola based inks for in-plant printing

174. DOUBLE SIDED COPIES
- approximately 75-80 percent of in-plant printing undertaken at Queen's Printer is double sided

175. OLD LETTERHEAD
- old letterhead paper is converted into scratch pads at Queen's Printer

176. INDUSTRIAL WASTE GENERATOR TECHNICAL SERVICES
- technical assistance to industries which generate hazardous waste is provided on waste minimization, audits, on-site treatment and other management options
- provided by the Manitoba Hazardous Waste Management Corporation

177. TICKETS TO SAVING TREES
- Manitoba Lotteries produces all varieties of its Break Open Tickets on 100 percent recycled paper

178. COMPUTER TONER CARTRIDGE RECYCLING
- computer printer toner cartridges are recycled and recycled cartridges are purchased in most government offices

179. COMPOSTING
- a pilot project has been established at the Brandon Correctional Institute to examine the feasibility of composting material from cafeteria operations

180. DOUBLE-SIDED PHOTOCOPYING
- most government offices have been equipped with double-sided photocopiers and a campaign to educate staff is underway

181. TIRE RECYCLING
- the central government garage in Winnipeg sends all the old tires to a business which recycles them into floor mats
- approximately 1,000 to 1,250 tires are recycled annually

182. RE-REFINED OIL
- the central government garage in Winnipeg uses re-refined oil for fleet vehicles and recycles all the used oil
- approximately 15,000 litres of oil is used and recycled annually

183. ANTI-FREEZE RECYCLING
- the central government garage in Winnipeg sends used anti-freeze to a business which cleans the material, re-establishes the pH level and sells it

184. MANITOBA LIQUOR CONTROL COMMISSION EMPLOYEES' RECYCLING PROGRAM
- recyclable material is collected from Manitoba Liquor Control Commission employees
- funds raised are donated to the Fort Whyte Environmental Eduction Centre

185. ASSOCIATION FOR A CLEAN RURAL ENVIRONMENT (ACRE)
- mandate to develop mechanisms for collection and disposal of pesticide containers
- depots set up throughout Manitoba to receive containers, rinse and recover chemicals and recycle cleaned plastic and metal
- funded through a levy on the sale of pesticides in containers

186. LIQUOR BOTTLE/CAN RECYCLING
- collection and recycling of non-deposit beverage alcohol containers
- commenced June 1989
- target for 1994 is 70 percent of non-deposit liquor containers
- undertaken as part of an agreement between Manitoba Liquor Control Commission and Manitoba Soft Drink Recycling Inc.

187. PROVINCIAL HOUSEHOLD HAZARDOUS WASTE COLLECTION
- a province wide program for collection of household hazardous waste
- includes an educational program on waste minimization and support for community sponsored collection days
- operated by the Manitoba Hazardous Waste Management Corporation

188. CARTON PICK-UP/RECYCLING
- almost 100 percent of cartons used for the delivery of liquor to the Manitoba Liquor Control Commission are reused or recycled
- cartons are used to repack bottles after purchase, made available to the public or picked up for recycling bottles

189. HABITAT RE-STORE
- paint collected by Manitoba Hazardous Waste Management Corporation is donated to Habitat Winnipeg for resale at Re-Store, a used building materials retail outlet
- approximately 4,000 litres is donated yearly

190. TELEPHONE DIRECTORY RECYCLING

- Manitoba Telephone System collected and recycled approximately 600 tons of Winnipeg and Provincial directories in 1991
- directories are recycled into egg cartons
- joint venture between the Manitoba Telephone System and Canada Safeway

191. PAPER RECYCLING PROGRAMS

- the Paper Rescue Program was introduced into 29 government leased and owned office spaces and has recycled approximately 60 tons of paper
- the Government Records Centre has recycled approximately 3,000 tons of paper

192. WASTE REDUCTION AND PREVENTION ACT (WRAP)

- enables the Province to assign general responsibility for waste reduction
- provision to establish waste reduction targets and employ financial measures to reduce solid waste by 50 percent by the year 2000
- action plans prepared for beverage containers, newspapers, oil and tires
- enacted August 31, 1990

SUSTAINABLE AGRICULTURE

193. CONSERVATION PROGRAM DIRECTORY FOR AGRO-MANITOBA

- provides a list of programs which encourage farmers to alter their farmland management practices
- available through the Department of Agriculture

194. SOUTHWEST MANITOBA FIELD SHELTERBELT SERVICE

- encourages and assists farmers in southwest Manitoba to plant and maintain shelterbelts
- estimated that between 1991 and 1994, 800 miles of shelterbelts will be planted

195. MANITOBA FORAGE COUNCIL

- promotes production and marketing of forage crops for soil conservation, pest management and wildlife enhancement

196. PROMOTION OF FORAGES

- promotes the production, utilization and marketing of forage crops for soil conservation, pest management and wildlife enhancement
- joint effort by the Manitoba Forage Council, Department of Agriculture and private industry

197. INTEGRATED PEST MANAGEMENT FOR FRUIT AND VEGETABLE PRODUCTION
- encourages an integrated approach to insect control through insect identification, economic threshold evaluation and control strategy formulation
- goal to apply pest control measures based on economic threshold injury projections to reduce applications and increase production efficiency

198. CROWN RANGELAND MANAGEMENT PROGRAM
- assist those that lease Crown lands to develop acceptable management systems that sustain or enhance land productivity in the long term

199. RENEWABLE OIL SOURCES
- encourage and support the production and marketing of flax as a renewable commercial oil source

200. VALUE-ADDED PRODUCTS
- provide market development assistance to producers and agro-business for value-added products which further support the economic strength and sustainability of Manitoba agriculture

201. UNHEATED AIR GRAIN DRYING
- assist farmers install air grain drying systems that minimize the probability of grain deterioration

202. DAIRY HERD IMPROVEMENT PROGRAM
- goal to improve dairy head productivity with the objective of more efficiently utilizing raw of materials, such as forages, grains and energy, from natural resources to enhance producer return

203. NUTRITION ANALYSIS
- promotes feed testing and efficient feeding practices to decrease waste volume
- encourages the use of by-products and waste, such as distillers grains and screenings, as animal feeds
- development and promotion of a "Code of Practice" for animal care

204. ALTERNATIVE SWINE HOUSING
- research project to study low-cost, low-input swine housing
- cooperative effort by University of Manitoba, Manitoba Pork Est. and Department of Agriculture

205. SWINE ARTIFICIAL INSEMINATION
- new technology that allows greater utilization of superior boars and reduces the number of boars required

206. GENERIC EVALUATION PROGRAM FOR SHEEP
- to identify superior animals in the sheep flock with the future goal of less reliance on hormones and medication to maintain high levels of productivity

207. THE BENEFITS OF SHEEP GRAZING
- provide support and assistance to Manitoba based field trials on the benefits of sheep grazing to controlling plant eco-systems such as leafy spurge

208. INTEGRATION OF SHEEP OPERATIONS
- an extension program which emphasises the integration of sheep operations with other agricultural activities

209. POULTRY HEALTH
- regulations on breeding stock and premises designed to assure quality of production
- includes advice to breeders on all aspects of management

210. FLAX STRIPS TO REDUCE EROSION
- fact sheet outlining practical methods of reducing soil erosion on summerfallow land

211. SUPPORT PULSE CROPS PRODUCTION
- encourages and supports the production and marketing of pulse crops which reduced the demand for chemical based fertilizers due to their nitrogen fixation abilities

212. SOIL MANAGEMENT FOR PULSE CROPS
- brochure outlining recommended practices to protect the soil against wind erosion following the harvest of pulse crops

213. GROUNDWATER QUALITY PROJECT
- survey of water from irrigation wells for pesticide and nitrate contamination
- establishment of long term monitoring wells in the Assiniboine-Delta Aquifer area

214. WASTE MANAGEMENT
- assistance to producers in the design and location of feedlots and cattle handling facilities to minimize pollution of waterways
- provides information on design of dugouts and watering equipment, such as solar pumps

215. ANALYSIS OF SUSTAINABLE ACTIVITIES
- assistance provided in the form of budgets and economic analysis to show economic benefits to producers of incorporating sustainable activities

216. FARM BUSINESS MANAGEMENT ANALYSES
- worksheets or computer programs provided to farmers to develop budgets and economically viable farm unit

217. ECONOMIC ANALYSIS OF SUSTAINABLE SYSTEMS
- assistance to producers, staff or private industry in developing viable farm business plans, for example organic farming, zero tillage use and forage production

218. WORLD CROP MONITORING PROGRAM
- conducts weekly satellite image analysis of grain crops in Canada and other countries from which crop condition and yield assessments can be calculated

219. LAND USE EVALUATION
- conducts a land use and land cover mapping program from satellite data of agro-Manitoba
- information is combined with soil erosion risk data in a geographic information system to provide a framework for evaluating current land use strategies
- goal to implement better land use and farming practices in order to advance conservation programs

220. INDIVIDUAL COUNSELLING
- analyze of farm businesses in financial difficulty to develop and maintain viable and sustainable farm units
- undertaken in consultation with financial institutions

221. PESTICIDE DEALER & APPLICATOR LICENSING
- educational and licensing program that promotes the safe and efficient use of agricultural pesticides

222. BEES & INSECTICIDE SAFETY
- educational program for producers and commercial pesticide applicators on insect pest control methods that do not harm bee populations.

223. HONEY BEE SELF SUFFICIENCY
- provides technical information on honey bees wintering and queen bee rearing which reduces the need for imported replacement stocks

224. EFFICIENT PRODUCTION OF ALFALFA SEED
- provides producers with technical information pertaining to leaf cutting bee management for alfalfa seed production

225. GENETIC/ENVIRONMENT ANALYSIS
- data from the Beef Record of Performance and Progeny Proving Program is used to identify and match genetic and environmental resources
- objective to track animals from birth to market and evaluate the sustainability and profitability of different gene pools

226. MANITOBA RED MEATS FORUM INC.
- provides communication among the various sectors of the industry to identify opportunities to ensure the sustainability of the industry

227. MANITOBA DAIRY FARM INSPECTION PROGRAM
- enforces the standards set out in the Manitoba Dairy Act on the management of dairy farm premises
- emphasis on maintenance of air and water quality through proper handling, storage and disposal of dairy wastes

228. MILK QUALITY IMPROVEMENT PROGRAM
- goal to improve the quality of milk production and reduce the use of antibiotics
- promotes preventative medicine as an approach to quality milk

229. ORGANIC FARMING MANUAL
- an introduction to organic farming, highlighting experiences of practising organic farmers and technical aspects of organic farm management
- joint project between Manitoba Agriculture and Environment Canada

230. AGRICULTURAL AND RURAL DEVELOPMENT INFORMATION SYSTEM
- investigation of applications of geographic information systems to agriculture and rural development issues
- joint project between the private sector and the western provinces

231. BIOLOGICAL CONTROL OF WEEDS PROGRAM
- examines the feasibility of using biological agents for control of weeds

232. WILD OATS HERBICIDES: TO SPRAY OR NOT TO SPRAY
- computer model that predicts crop yield loss due to wild oats competition and advises if pesticide spraying is necessary
- goal to decrease the amount of pesticides used

233. GROUND WATER PROTECTION FROM PESTICIDES
- development and communication of practices which will ensure protection of groundwater from contamination with pesticides and fertilizers

234. FARMING FOR TOMORROW

- a program to encourage farmers, conservationists and government to work together to implement soil conservation activities
- provides funds for a variety of conservation activities to help curb erosion and keep the soil productive
- the On-Farm Soil Conservation component is delivered by 44 conservation groups and provides access to all farmers in Manitoba
- part of the Canada-Manitoba Soil Conservation Agreement with a joint commitment of $18 million over 4 year, commencing August 1989
- achievements to date include:
  - 700 miles of shelterbelts
  - approximately 23,000 acres of highly erodible land seeded in forage
  - approximately 30 rotational grazing systems were developed to avoid erosion on pasture land
  - approximately 600,000 acres seeded using rented conservation equipment

SUSTAINABLE FORESTRY

235. FOREST ACT

- amended to provide authority for enacting a forest renewal charge to ensure appropriate reforestation
- will ensure the appropriate reforestation and renewal of the Manitoba's forests
- puts the onus for reforestation on the users of the forest resource
- a complete review is being carried out to ensure the incorporation of the policies in the sustainable development forest strategy

236. STATUS OF FORESTRY REPORT

- provides a 5 year statement on the extent of Manitoba's forest resource

237. MANITOBA FORESTRY/WILDLIFE MANAGEMENT PROJECT

- goal is to develop a process that integrates wildlife habitat values into forest management decision making
- cooperative project among Department of Natural Resources, Abitibi-Price Inc., Repap Manitoba and Wildlife Habitat Canada Inc.

238. FOREST ASSESSMENTS FROM RADAR IMAGERY

- conducts forest assessments through the analysis of airborne and satellite radar imaging systems in preparation for the launch of Canada's own RADARSAT satellite
- studies includes change from harvesting, fire loss, and insect and disease damage

239. FOREST MANAGEMENT PLANS
- development of 5 year plans for all forest management units directly supervised by the Department of Natural Resources
- development of the plans will include public participation

240. PRIVATE LANDS FORESTRY PROJECTS
- provides information and support to private owners of forest land in order to enhance and encourage sustainable development
- developed under the Canada/Manitoba Partnership Agreement in Forestry and the Manitoba Habitat Heritage Corporation

241. SUSTAINABLE FOREST: A CANADIAN COMMITMENT
- the provincial and federal government co-hosted a 3 day workshop to assist in the development of a National Forest Strategy
- the National Forest Strategy is an initiative by the Canadian Council of Forest Ministers

242. MANITOU ABI MODEL FOREST
- proposal for a project designed to illustrate new integrated forest management techniques reflecting the sustainable development ethic
- partners include the Green Plan, Abitibi-Price Inc. and Manitoba Natural Resources

243. BOREAL PROGRAM
- goal to improve the understanding of interactions between the boreal forest biome and the atmosphere in order to clarify their role in global climate change
- joint undertaking by National Science Foundation, National Aeronautics and Space Administration, Manitoba Natural Resources, and Federal Departments of Environment, Forestry, Agriculture, and Energy, Mines, and Resources

244. PROVINCIAL REFORESTATION PROGRAM
- production and planting of seedlings on lands which have been disturbed by harvesting and fires

245. PROVINCIAL TREE IMPROVEMENT PROGRAM
- program to improve the genetic strain of commercial tree species and protect the biodiversity of forests

246. PROVINCIAL FORESTRY SEED ORCHARD PROGRAM
- program to develop orchards for future seed supplies to provide genetically improved seed for future forests
- also ensures genetic diversity of the forest ecosystem

247. PROVINCIAL REGENERATION PROGRAM

- program to assess the results of forest regeneration activities whereby any unsuccessful areas are addressed through seeding and planting to maintain sustainability

248. ENVIRONMENTAL LICENSING OF FORESTRY ACTIVITIES

- a licensing program to ensure logging conforms to the forest's ability to regenerate
- joint project between the Departments of Environment and Natural Resource

249. CANADA-MANITOBA PARTNERSHIP AGREEMENT IN FORESTRY

- joint agreement to undertake programs of forest resource development
- activities include reforestation of cutover and burned areas, assistance in private land forest management, and research to evaluate forest management activities
- includes the provision of funding
- funding has been provided to the following projects:
  - the effects of forest management on biodiversity;
  - the environmental impact of Dutch Elm Disease management techniques;
  - assessment of logging and fire on forest succession;
  - effect of forest management on forest wildlife;
  - assessment of herbicide activity and decline in terrestrial and aquatic forest environment; and
  - development of improved forest fire prediction and management techniques
- 5 year $30 million agreement

250. TREE PLANTING PROGRAM

- a program to plant trees to replace those lost to Dutch Elm Disease in Winnipeg
- cooperative effort between the City of Winnipeg and the Department of Natural Resources

251. FOREST PROTECTION

- development of fully integrated environmentally acceptable management programs for the major forest insects and disease pests in Manitoba
- includes examining biological control, utilizing geographic information systems, developing the economic impact and documenting pest infestation
- targets are jack pine budworm, spruce budworm, elm bark beetle, dwarf mistletoe and armillaria root rot

252. ACID RAIN NATIONAL EARLY WARNING SYSTEM
- a bio-monitoring program to examine the effects of acid precipitation on natural boreal forest ecosystems within Manitoba
- parameters include tree growth, soil chemistry and biodiversity of plant species
- information will be used to assess changes by other threats such as global warming

253. FOREST HERBICIDES INVESTIGATIONS
- vegetation species diversity and wildlife habitat are monitored in areas sprayed with specific pesticides which manage forest growth

ENVIRONMENTAL PROTECTION

254. MANITOBA CLEAN ENVIRONMENT COMMISSION
- holds hearings to obtain public input on environmental matters and licensing
- provides advice and recommendations to Minister of Environment
- can also undertake environmental investigations and mediation
- 10 members appointed by the Provincial Government

255. LONG RANGE TRANSPORT OF AIR POLLUTANTS (SNOW MONITORING)
- monitoring snow to determine acidity and toxic metal to calculate the emission levels
- occurs at several sites in Manitoba, in particular near the 2 smelters at Thompson and Flin Flon

256. MANITOBA ENVIRONMENT COUNCIL
- provides advice and recommendations on environmental matters
- an advisory group appointed by the Minister of Environment
- comprised of 60 representatives from a wide array of organizations

257. GLOBAL WARMING/CLIMATE CHANGE
- findings are being compiled into an emission inventory of greenhouse gases to assess Manitoba's contribution to global warming
- the inventory will cover emissions associated with energy consumption and production, process and area sources, agriculture, land-use, forests and burning

258. EMERGENCY RESPONSE TEAM
- provision of a 24 hour emergency response regional capability
- provides technical advice, the coordination of local training, the management of cleanup activities and issuing orders

259. WASTE DISPOSAL GROUNDS REGULATION

- establishes higher standards for the management and disposal of solid waste in Manitoba

260. ENVIRONMENTAL HEALTH RISK ASSESSMENT

- review of potential effects of economic developments on human health
- risk assessment attempts to clarify the risks to human health associated with developments, accidents, natural phenomena and other potentially harmful exposures

261. RADON

- a comprehensive homeowner's guide for assessing radon hazard and preventing exposure
- province wide survey to identify higher exposure areas
- research to identify effective control techniques

262. GEOGRAPHICAL INFORMATION SYSTEM

- use of computer mapping to identify locations not suitable for landfill sites, industrial development, or hazardous waste facilities
- has been used to locate a suitable site for a hazardous waste facility in Manitoba
- joint project between the Manitoba Hazardous Waste Management Corporation and I.D. Systems Ltd.

263. OZONE DEPLETING SUBSTANCES ACT

- aims to limit the use of CFC's (chlorofluorocarbons) and bans halons which may destroy the ozone layer
- makes training of staff and the recycling of refrigerant gases mandatory
- also sets standards for consumer notification
- passed March 1990

264. HUDSON BAY MINING AND SMELTING ENVIRONMENTAL ENHANCEMENT

- a $187 million environmental improvement program for the company's metallurgical plant in Flin Flon
- goal to reduce sulphur dioxide emissions by at least 25 percent and airborne particles by over 50 percent
- joint venture between Hudson Bay Mining and Smelting Co. Ltd. and the governments of Manitoba and Canada

265. MINES CLOSURE PLANS - METAL MINES

- under the Mines and Minerals Act rehabilitation requirements for metal mines and advanced exploration activities have been expanded
- makes the developer responsible for carrying out a program for protection of the environment and rehabilitation of the site

266. OIL AND GAS ACT
- governs the exploration, production, transportation and storage of oil and gas in Manitoba
- is a companion legislation to the Mines and Minerals Act
- proposed introduction is 1992 or 1993

267. OIL AND SALT WATER SPILLS
- regulation pertaining to oil and gas production facilities aimed at preventing, mitigating the number and size of accidental spills, and reclamation
- requires that all sited damaged by oil or salt water spills be reclaimed to original condition

268. PETROLEUM DRILLING INCENTIVE PROGRAMS
- provides royalty and production tax holidays to new oil wells

269. MANITOBA SURFACE WATER QUALITY OBJECTIVES
- defines the minimum quality levels to protect important water uses
- an integral part of the development of Manitoba water quality policies and an important link between environmental protection and economic development

270. MANITOBA SURFACE WATER QUALITY MONITORING
- approximately 45 sites throughout Manitoba are routinely monitored for over 75 water variables
- the information collected is used to determine natural background water quality and to assess changes in water quality over time

271. MANITOBA LAKE REHABILITATION
- a program where cottage owners, communities and water users suspecting deteriorating water quality in their lakes, collect samples which the Department of Environment analyze and make recommendations for improvements

272. RECREATIONAL WATER QUALITY
- an ongoing program to monitor the quality of recreational waters and provide education to water users
- joint activity between water users, who take the samples, and the Department of Environment, who provide analysis

273. MANITOBA AIR QUALITY MONITORING
- ambient air quality is monitored and assessed in several urban locations and in the vicinity of industries
- information used as a comparison to standards and as part of environmental impact assessments

274. PUBLIC REGISTRY
- allows public access to environmental assessment and project information on proposed developments
- mandated under the Environment Act

275. STATE OF THE ENVIRONMENT REPORT
- provides base-line information on the status of the environment in Manitoba
- released every two years
- first report released June 1991
- conducted by Manitoba Environment

276. ENVIRONMENT ACT
- expands the definition of the environment to include physical, biological, social and economic considerations
- allows cooperative environmental assessments with other jurisdictions
- ties the environmental assessment process to licensing developments

EDUCATION AND TRAINING

277. SUSTAINABLE DEVELOPMENT EDUCATION CONSULTANT
- a curriculum consultant has been established in Manitoba Education and Training and assigned the responsibility for implementing sustainable development into kindergarten to grade 12 curriculum

278. PROJECT WILD
- an interdisciplinary instructional program designed for schools to allow the integration of wildlife related activities into the classroom
- purpose to motivate youngsters to take intelligent and constructive action to conserve wildlife and natural resources
- implemented by Natural Resources in cooperation with Canadian Wildlife Federation and utilized by school divisions

279. MANITOBA HAZARDOUS WASTE MANAGEMENT CORPORATION RESOURCE CENTRE
- a comprehensive technical resource centre containing information on hazardous and general waste management
- located at the Manitoba Hazardous Waste Management Corporation

280. MANITOBA EDUCATION AND TRAINING
- developed a 5 year plan which includes sustainable development as a key thrust

281. OIL AND SALT WATER SPILL RECLAMATION
- course conducted by the Petroleum Industry Training Service on techniques to reclaim soil damaged by oil and salt water spills
- sponsored by the Department of Energy and Mines

282. KINDERGARTEN TO GRADE 12 CURRICULUM
- developed of an action plan to implement sustainable development initially into science, social studies and Skills for Independent Living curriculum
- appropriate resource packages will be developed for teachers
- sustainable development will be introduced in the interim science curriculum for kindergarten to grade 9

283. 4-H "THE ENVIRONMENT AND YOU" PROJECT
- project to involve 4-H groups in finding solutions to environmental problems at home, in the community or in the world
- groups can choose activities from 5 modules: Forestry, Water, Soil, Wildlife, and Reduce, Re-Use, Recycle and Recover

284. 4-H "MAKE WAY FOR WILDLIFE" PROJECT
- 4-H members 12-14 years old learn about the variety of Manitoba wildlife and the affect of food relationships, weather and habitat

285. 4-H "BETTER HABITAT FOR WILDLIFE" PROJECT
- 4-H members 15 years old and older explore the concepts of wildlife management and habitat as well as problems caused by wildlife

286. MTS.ECO
- an in-house electronic communication system advising employees on environmental tips on recycling and re-use resources in the community
- provided to Manitoba Telephone System employees

287. PESTICIDE EDUCATION
- an education package for Manitoba producers which stresses personal and environmental safety and economic pest management

288. EARTH DAY COLOURING CONTEST
- children are encouraged to express their feelings about the environment by drawing pictures
- winning entries are featured in an issue of MTS news magazine
- open to children of MTS employees

289. HAZARDOUS WASTE ENVIRONMENTAL EDUCATION RESOURCE

- an environmental education resource guide prepared for kindergarten to grade 12 students relating to the hazardous waste issue and its management
- intended primarily for teachers but has proven useful for other youth oriented groups
- joint project between Manitoba Hazardous Waste Management Corporation and Department of Education

290. MANITOBA YOUTH JOB CENTRE PROGRAM

- 44 summer offices provide referral, counselling and placement services to students and unemployed youth

291. SATELLITE TRAINING

- 1 day workshop for 1,200 provincial civil servants and local municipal counsellors held simultaneously in 32 locations in Manitoba via satellite transmission
- focused on the principles and guidelines of sustainable development
- cooperative effort between 12 departments led by Department of Natural Resources

292. MANITOBA TELEPHONE SYSTEM VIDEO

- a video by Manitoba Telephone System on how burying cable is handled in urban and rural areas
- focus will be on clean up of construction site
- will be made available to municipalities and individual land owners

293. MANITOBA CAREER START

- provides work experience incentives to help employers create new, career-related summer jobs for students and unemployed youth seeking seasonal employment

294. EDUCATIONAL PROGRAM ON ENERGY AND ENVIRONMENT

- an educational program on relationship between energy and environment, with an emphasis on energy efficient lifestyles
- 5 year agreement between Fort Whyte Centre for Environmental Education and Manitoba Hydro

295. HEALTHY PUBLIC POLICY PROGRAMS

- Department of Health created a series of branches which incorporate the principles of healthy public policy
- branches include: Women's Health; Healthy Child Development; Health Promotion, Protection and Disease Protection; Aboriginal Health; Capital Planning; and Acute and Ambulatory Care

296. ON-SITE PROGRAM
- a federally sponsored employment program to place underemployed professionals in environmental service positions in the industry
- in past 4 years has resulted in 130 jobs being created in the environmental field
- Manitoba Hazardous Waste Management Corporation provides provincial support for this federal program

297. HUMAN RESOURCES OPPORTUNITY PROGRAM/CENTRES
- centres offer intensive, group-based, employment preparation to help individuals enter or re-enter the work force

298. ENDANGERED SPACES VIDEO
- aimed at providing public education
- a cooperative project between Manitoba Hydro and the Manitoba Naturalist Society

299. SUSTAINABLE SHELTER TECHNOLOGY
- certificate program will begin in September 1993 at Assiniboine Community College
- will train students in the technologies and materials for the construction of energy/resource conserving houses
- collaborative partners include Canadian Mortgage and Housing Corporation, both the federal and provincial Departments of Energy and Mines, the Department of Education and Training and several regional consultants and technical specialists

300. PROGRAM/CURRICULUM REVIEW FOR SUSTAINABLE DEVELOPMENT
- Assiniboine College is developing a comprehensive program/curriculum review model which can be applied to existing college programs and the development of new programs to identify changes and inclusions which support the principles of sustainable development
- collaborative effort between the Department of Education and Training, Environment Canada, International Institute for Sustainable Development, Association of Canadian Community Colleges and the World Wide Fund for Nature

301. THE LIVING SOILS
- 2 modules developed for Grade 7 social studies and science teachers which focuses on soil and includes a section on sustainable development
- developed by the Prairie Farm Rehabilitation Association in consultation with the Departments of Education and Agriculture in the three prairie provinces

302. FORESTRY EDUCATION

- development of teacher resource information kits for classroom use is combined with tree planting projects
- joint project between Manitoba Hydro and Manitoba Forestry Association

303. AGRICULTURE COURSE

- as part of this Grade 11 course the students study the principles and guidelines of sustainable development
- developed by the Department of Education and Training

304. SUSTAINABLE DEVELOPMENT INSERVICES

- several inservices were held by the Department of Education and Training for teachers which focused on the importance of sustainable development

305. SUSTAINABLE DEVELOPMENT VIDEO TAPE

- the Department of Education and Training is consulting with a private agency on the preparation of a sustainable development video intended for school use at the grade 7 and 8 level

306. WORKPLACE 2000

- a skills training program designed to promote private sector involvement in human resource development and workplace training

307. SINGLE PARENT JOB ACCESS PROGRAM

- vocational and personal counselling, group pre-employment and life skills training, work experience placements, academic upgrading, and skills training provided to single parents who are eligible or receive social assistance

308. GATEWAY

- provides training and work experience leading to permanent employment to individuals on social assistance
- includes financial assistance

309. SUSTAINABLE DEVELOPMENT DAY AND "GREEN PLAN"

- Assiniboine Community College held a Sustainable Development Day on March 13, 1991 to heighten awareness and understanding on sustainable development
- a "Green Plan" was released which examined the College operations and program development and delivery

310. FORT WHYTE ENERGY ENCOUNTER EXHIBIT

- an Energy Education Program to encourage visitors to explore energy concepts and promote an energy-wise lifestyle
- joint project between the Fort Whyte Centre for Environmental Education and the Department of Energy and Mines

311. PARKS INTERPRETATION PROGRAM
- interpretation and environmental education is presented each summer in the major provincial parks
- both nature interpreters and self guiding trails are provided
- have received both national and international recognition

SUSTAINABLE DEVELOPMENT STRATEGIES

312. CORE DOCUMENT "TOWARDS A SUSTAINABLE DEVELOPMENT STRATEGY FOR MANITOBANS"
- Workbook released October 1990
- over 400 questionnaires returned
- six Open Houses took place in Spring and Fall 1991
- the strategy will be revised and adopted

313. WATER STRATEGY: LAND AND WATER
- Workbook issued January/February 1989
- public consultations, in conjunction with the Soil Strategy, held in rural and northern communities (28), in Winnipeg (4) and with specific interest groups (8) in early 1989
- What You Told Us issued November 1989
- Policy Application Document is near completion

314. SOILS STRATEGY: LAND AND WATER
- Workbook issued January/February 1989
- public consultations, in conjunction with the Water Strategy, held in rural and northern communities (28), in Winnipeg (4) and with interest groups (8) in early 1989
- What You Told Us issued November 1989

315. MINERALS STRATEGY: LAND AND WATER
- Workbook released February 1991
- 8 workshops held in March and April 1991; other workshops under consideration
- review of public comments, revision of policies and preparation of What You Told Us has begun

316. CODE OF PRACTICE STRATEGY

- Manitoba Round Table Subcommittee drafted a generic checklist to be used by business associations to develop t'eir own sustainable development code of practice
- Workbook released November 1991
- meetings have been held with a number of organizations and associations to encourage their adoption of codes of practice
- a Samples Code of Practice is also available

317. NATURAL LANDS AND SPECIAL PLACES STRATEGY: LAND AND WATER

- the working group has been established and is preparing a draft Workbook

318. ENERGY STRATEGY

- Workbook released November 1990
- review of public comments, revision of policies and preparation of What You Told Us is underway

319. DEMONSTRATION PROJECTS STRATEGY

- strategy released October 31, 1990 outlining a 2 phased plan of action:
  - Phase 1 - establish an awards program and catalogue of demonstration projects
  - Phase 2 - develop projects, hold workshops and implement educational programs
- independent Demonstration Projects Evaluation Committee has been established
- Sustainable Development Award of Excellence Program established April 1991
- an honourary patron of sustainable development was given to Alan Scarth at Earth Day, May 1991

320. MARKET INCENTIVES AND FISCAL POLICY STRATEGY

- working group has been established and is preparing the Workbook

321. ENVIRONMENTAL MANAGEMENT AND PROTECTION - AIR QUALITY

- working group has been established

322. RECYCLING AND WASTE MANAGEMENT STRATEGY

- working group established to review the Recycling Action Committee report
- report of the Recycling Action Committee has been reviewed and action taken on 2 points:
  - those recommendations considered appropriate for adoption are being written as policy statements and
  - significant gaps have been identified and considered for further study
- Workbook on municipal solid waste is being prepared

323. COMMUNICATIONS STRATEGY

- a 2 phased strategy has been developed:
  - Phase 1 - communications initiatives to support the Round Table activities, and
  - Phase 2 - communications around the public consultations for the Core Document
- six Open Houses were held:
  1. Winnipeg - June 26, 1991
  2. Thompson - October 3, 1991
  3. Dauphin - October 28, 1991
  4. Brandon - November 5, 1991
  5. Winnipeg - November 14, 1991
  6. Gimli - December 6, 1991

324. FOREST STRATEGY: LAND AND WATER

- Workbook released January 1990
- 14 workshops held in various communities in February and March 1990
- What You Told Us released November 1991
- draft Policy Applications Document is being prepared

325. RURAL MANITOBA STRATEGY

- an interdepartmental working group is drafting a strategy Workbook

326. EDUCATION STRATEGY

- working group established and developing a framework for the strategy
- strategies will be written on provincial education system; public sector; private sector, associations and non-government organizations; and to encourage cooperative efforts and partnerships
- Stakeholders Working Group will also be established

327. PUBLIC SECTOR STRATEGY

- a 3 phased framework for implementation approved by Cabinet in 1989
- Public Sector: A Process for Change, which outlines the sustainable development process in Manitoba, released February 1990
- the report "Towards Change in the Manitoba Public Sector" released April 1992

328. CAPITAL REGION STRATEGY

- meetings have been held to identify issues which need to be addressed
- a workbook is being prepared